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ABSTRACT

Intervention to enhance Interpersonal Cognitive Problem Solving (ICPS) skills has been shown to significantly reduce observable negative, impulsive and inhibited behaviors and increase positive qualities in young, low socioeconomic status (SES) children. An ICPS model for older children was implemented with 202 low SES fifth graders to test whether ICPS skills function as significant behavior mediators at that age. A series of 55 age-appropriate lesson-games were created for use by classroom teachers to enhance students' ability to apprehend the perspective of others (role-taking) and their problem solving skills. These skills included alternative solution thinking, consequential thinking, and means-ends thinking. The findings following 15 weeks of training indicated that overall gains in ICPS, but not multiple perspective-taking scores, correlated with gains in behavior, and most consistently with positive, prosocial behaviors in both boys and girls. In both sexes, it was an improvement in number and range of solutions that best related to these behavior gains, and most consistently to teacher ratings of concern for others, peer sociability, and the degree to which the child was liked by peers. In boys only, gains in consequential and means-ends skills also related to prosocial change. ICPS linkage gains with negative, aberrant behaviors were less clear and, while ICPS gains did not link with academic gains, prosocial behavior gains did. (NRB)

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SOCIAL COMPETENCE THROUGH PROBLEM SOLVING IN INNER CITY FIFTH-GRADERS: IS IT TOO LATE?

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Paper presented at the Annual Convention of the American Psychological Association, Toronto, Canada, August 24-28, 1984.

Social Competence Through Problem Solving in Inner City Fifth-Graders: Is It Too Late? [1]

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Research in children's social skills, peer relations, and general social adjustment has been studied in a myriad of ways, some taking primarily a behavioral point of view (e.g., Hops & Greenwood, 1981), some primarily a cognitive one (e.g., Selman, 1980), and some, a systematic combination of both (e.g., Meichenbaum, 1977). My colleague George Spivack and I have gone the cognitive route, specifically looking at how people solve typical, everyday interpersonal problems, what specific skills are relevant to peer relations and mental health, and what aspects of peer relations and mental health a cognitive problem solving intervention could impact.

In young low SES children, ages 4 and 5, we have learned that intervention to enhance what we call ICPS, or Interpersonal Cognitive Problem Solving skills can significantly reduce observable negative impulsive and inhibited behaviors, and increase positive qualities as concern, or at least visible awareness of peers in distress, and how much the child is liked by his or her peers (Shure & Spivack, 1982; Spivack & Shure, 1974). Within a wide Binet-IQ range, gains in ICPS skills that best related to improved social adjustment were: 1)alternative solution thinking (e.g., how one child can get to play with a toy that another child has), and 2)consequential thinking (what might happen next if, for example, someone grabs that toy). We also learned

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[1] Social skills in preadolescents: Assessment and training. Symposium presented at the meetings of the American Psychological Association, Toronto, Canada, August 1984 (J. R. Asarnow, Chair).

that: 1)ICPS impact on behavior lasted when measured one and two years later, 2)if a child was not trained in nursery, kindergarten was not too late, and 3)one exposure to the four month program had the same behavioral impact as two. Further, well-adjusted children trained in nursery were less likely to begin showing behavioral difficulties in kindergarten and first grade than were comparable controls, highlighting implications of the ICPS approach for primary prevention.

If kindergarten and first grade are critical transition points for younger children, we know that junior high is for older ones (e.g., Blyth, Simmons, & Carlton-Ford, 1983). We thought if we could intervene before that time, we might be able to prevent mental health dysfunction as youngsters make that move. Today I'm going to tell you about our first step toward the development of the ICPS model for older kids, specifically for low SES public elementary school fifth-graders.

In this study, 8 teachers trained 88 boys and 114 girls. The goal was not to evaluate the practical impact of training as a program (by comparing group mean scores of trained youngsters vs. controls), but rather, to test the prior theoretical question of whether ICPS skills function as significant behavioral mediators at this age. An ICPS skill would be viewed as a mediator if increased scores on its measures correlates with changes on measures of observed behavioral adjustment (independent of IQ and other impersonal cognitive abilities). A correlation of change in the trained ICPS skill with change in observed overt behaviors would provide support for a direct link between the ICPS skill and adjustment. However, to test for possible effects of repeated ICPS testing, or natural developmental gains, 60

ICPS and behaviorally comparable youngsters, 30 boys and 30 girls were added.

To test the ICPS/behavioral mediation theory for this new age group, we created a series of 55 age-appropriate lesson-games for use by teachers in the classroom (Shure & Spivack, 1982). Through pictures, puppets, and role-playing techniques, sequenced exercises were designed to enhance ability to appreciate the perspectives of others (role-taking) and problem solving skills found to be related to behavioral adjustment measures at this age, before training. These include alternative solution thinking (Asarnow & Callan, this symposium; Richard & Dodge, 1982; Shure & Spivack, in preparation), consequential thinking (Shure & Spivack, in preparation), and means-ends thinking, or the ability to plan sequenced steps toward a stated goal, circumvent potential obstacles, and recognize that goal attainment may take time (Marsh, 1981; 1982; Peiligrini, in press; Shure & Spivack, in preparation).

Throughout 15 training weeks, the concept "There's more than one way was stressed to develop a problem solving style of thought. There's more than one way: a)to explain another's behavior (e.g., "Maybe he didn't wave because he's mad at me," or, "Maybe he just didn't see me."); b)to explain another's motivation (e.g., "Maybe that boy [sitting by himself watching others play] wants to be alone," or, "Maybe the others won't let him play."); c)to find out others' feelings and preferences (by watching, by listening, and by asking); d)to solve a problem (with different solutions and step-by-step plans). Children are also helped to see that there's more than one way that oneself or others might react should a solution or plan be carried out (potential consequences).

With the goal being to teach children how to think, not what to think, they were never told solutions, consequences, or sequenced steps (plans). Rather, children were encouraged to think of their own ideas, and then to evaluate whether those ideas were or were not good ones, in light of their potential consequences. In addition, teachers were trained to incorporate a problem solving style of communication during the day when actual problems would arise, an extension which, if applied outside of the formal lessons, can help children use ICPS thought more effectively when they face real problems on their own.

Excluding those whose behavior could not improve from the analyses (see Table 1 for specific Ns), the major finding was that overall, gains in ICPS but not multiple perspective-taking scores (as measured by Feffer & Gourevitch, 1960) correlated with gains in behaviors, most consistently with positive, prosocial behaviors in both boys and girls. In both sexes, it was improvement in the number and range of solutions that best related to these behavior gains, most consistently to teacher ratings of concern for others, peer sociability, and the degree to which the child was liked by peers. In boys, though not girls, gains in consequential and means-ends skills also related to prosocial changes. ICPS linkage gains with negative, aberrant behaviors were less clear. Although all changes were in the predicted direction, only solution skills linked significantly, in girls only, for behaviors reflective of overemotionality and aggression, but not impatience, with no linkages significant for inhibition. Nevertheless, the findings of solution thinking as a behavioral mediator in girls were important. Increased prosocial behavior was accompanied by decreased impulsive factor scores of overemotionality plus aggression,

with partial correlations showing it was the cognitive solution skills which directly mediated both.

Although Feffer's multiple perspective-taking did not relate directly to behavior gains, it did accompany increased means-ends scores in boys and number and range of solutions in girls, all of which did link to prosocial behavior gains. Perhaps awareness of, or sensitivity to another's point of view may not be sufficient in itself to solve a problem or reduce conflict, but it could enrich the quality of problem solving thinking if the latter were operative at the time. We also learned that while ICPS gains did not link with academic gains (functional reading and math grade book levels and California Achievement Test scores), prosocial behavior gains did. This is theoretically logical and extremely interesting. Nothing should suggest that training interpersonal cognitive skills should improve impersonal cognitive ones. But, if behavior gains can improve academic ability, and if ICPS can improve behavior, then we have an additional potential for the ICPS approach. That no ICPS/behavior/achievement linkage occurred in the controls suggests the theoretically relevant linkages of trained youngsters cannot be attributed to mere test-taking experience or to the four month period which elapsed between pre- and posttesting.

The possibility exists that in contrast to preschool and kindergarten youngsters, ICPS training of fifth-graders affects prosocial behaviors sooner and more consistently than negative impulsive and inhibited ones. Perhaps longer and/or more intense training is required to bring out more convincing aberrant behavior change needed to reveal the cognitive/aberrant behavior linkages hypothesized. This seems reasonable in light of significant pretraining correla-

tions of research mentioned earlier, and by the consistent predicted direction of non-significant ICPS/aberrant behavior change linkages in this study.

Perhaps intensity is an issue. Preschool and kindergarten programs involve daily training. Due to curriculum demands, implementation three times a week is logistically most feasible, and may account for other studies of older children, where linkages exist at all, being relatively weak or inconsistent (e.g., Weissberg, et. al., 1981). Given the more immediate ICPS gains, that ICPS and behaviors are correlated phenomena, and the possibility that aberrant behaviors are simply more habitual in older than in younger children (and therefore more resistant to change), more intense or extensive ICPS intervention appears logical to pursue.

It is possible that thrice-weekly training within a single school year does affect aberrant behaviors, but only surface at a later time. Gesten and his colleagues (Gesten, et. al., 1982) found that while trained second- and third-graders showed significant immediate ICPS gains (called SPS [Social Problem Solving] by this research team), both positive and negative (acting out) behavior gains showed up in ratings of teachers one year later. Whether these gains can be linked to immediate or latent ICPS(SPS) gains is not yet clear. That most immediate behavior gains of controls returned to baseline at follow up, a group whose SPS skills never significantly improved suggests promise for future research.

It appears that one cannot assume that within a three to four month time frame, ICPS intervention will affect all interpersonal behaviors equally at different ages, or that specific ICPS skills

will always have the same impact on both boys and on girls. And, in addition to quantity of solutions, consequences, and means-ends components, perhaps we need to examine other dimensions of these skills as well. Our discussant Ken Rubin and others have argued that the quality of solutions may be at least as important as the quantity (e.g., Rubin & Daniels-Beirness, 1983). We also know that other, yet to be discovered ICPS skills must exist as well. Before concluding that it is too late, or logistically too difficult for ICPS intervention to more substantially mediate behavior of school-aged children, both the consistencies and the questions raised are sufficiently inviting to probe.

At present, we have just finished collecting data on a new sample of youngsters, some trained twice (in Grades 5 and 6), some trained only once (in Grade 5). I might add that we now call ICPS, when training kids I Can Problem Solve, a name the youngsters have latched onto easily, and enthusiastically. We also had groups receiving comparable amounts of training in impersonal cognitive skills (e.g., logic, Piagetian conservation tasks, etc.). Not only will immediate ICPS/behavioral/academic impact be evaluated and compared, but as we follow the youngsters into junior high (grade 7 and hopefully beyond), we can assess the impact of differential amounts and types of intervention on how these youngsters cope with the difficult transition to junior high. We are encouraged to learn that Elias (1984) has found that ICPS (SPS) intervention has helped to reduce the intensity of stressors experienced at transition to middle school (grade 6), and that the amount of stress experienced was directly related to the length of training (the more training, the less intensity the stress). This is remarkable considering the

range of stressors encountered, "from serious public and mental health problems such as becoming involved with smoking or drinking to issues of coping with peer pressure, academic requirements, and the logistics of being in a large, unfamiliar school" (ms. p. 11).

Further analysis of data such as that of Elias, and continued assessments of overt behaviors will help us understand which indices of mental health at this age are (and are not) mediated by ICPS abilities and therefore are (and are not) alterable by the ICPS approach. They will also begin to shed light on the efficacy of the ICPS approach for this age and SES group through questions as : Who does it help? How does it help? How long does it take? How long does it last?

Table 1

Pre-Post Change Score Linkages of Trained Ss

		Interpersonal Cognition						Impersonal Cognition			
Behavior	N	Chips-Sol.	Sol. Cat.	M-CONS	Cons-Cat.	MEPS	RTT	INTELL-ACAD.[a]	Read	Math	IQ
Boys											
B-PROSOC-I	88	.34**	.30**	.22*	.16	.23*	-.04	.23*	.26*	.13	.12
B-PROSOC-II	88	.06	.03	.03	.01	.04	-.15	.24*	.22*	.14	-.01
B-IMPUL -I[b]	71	.05	.04	.10	.06	.04	.20	.11	-.10	-.15	.07
B-IMPUL -II[c]	55	.02	.10	-.07	-.02	-.17	-.18	.11	-.19	-.13	-.16
Shyinh(SI)	57	-.08	-.07	-.07	-.07	-.14	.20	-.14	.13	-.05	-.07
Girls											
G-PROSOC[d]	114	.30**	.29**	.07	.04	.09	.07	.30**	.20*	.21*	-.01
G-IMPUL -I[b]	82	-.27*	-.13	-.13	-.12	-.08	.04	-.04	.04	.00	-.14
G-IMPUL -II[c]	73	.09	.05	-.15	-.17	.01	.01	.08	.07	.06	-.08
Shyinh(SI)	73	-.12	-.14	-.10	-.08	-.07	.10	-.17	-.16	-.20	-.02

Note: No ICPS or RTT changes related to any impersonal cognitive gains.

a Teacher rated

b B-IMPUL I = Overemotionality + Impatience; G-IMPUL I = Overemotionality + Aggression

c B-IMPUL II = Aggression; G-IMPUL II = Impatience

d For girls, all prosocial items fell into a single factor

** $p < .01$

* $p < .05$

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